UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/516,859	03/02/2000	Drew Bertagna	134/005	4216

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EXAMINER
DUONG, DUC T

ART UNIT	PAPER NUMBER
2663	

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

> A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
> THE MAILING DATE OF THIS COMMUNICATION.
> - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
>   after SIX (6) MONTHS from the mailing date of this communication.
> - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
> - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
> - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
> - Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
>   earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *11 July 2003* .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1,2,4,7,8,10,13-15,17 and 18* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1,2,4,7,8,10,13-15,17 and 18* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

   If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____ .

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
   application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

   a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-2, 4, 7-8, 10, 13-15, and 17-18 are rejected under 35 U.S.C. 103(a) as

being unpatentable over an applicant's admitted prior art, an IEEE standard 802.1Q in

view of Merchant (U.S. Patent 6,460,088 B1).

Per claim 1, an applicant's admitted prior art, an IEEE standard 802.1Q, teaches

remapping packet priority in a data communication switch having a plurality of ports (a

bridge in a LAN which consists of a plurality of ports as known in the art, pg. 1, lines 15-

18) receiving a packet (a Std. 802.1Q-compliant packet) including a first priority value

(the inbound tag priority) on a first port (a reception port) (pg. 1, lines 15-21),

determining a second priority value (the outbound tag priority) based on the first priority

value (the inbound tag priority) and the virtual trunk value (the virtual trunk value is not

defined, therefore, it reads on the reception physical port identifier) (pg. 1, lines 18-21),

and transmitting the packet including the second priority value (the outbound tag

priority) on a second port (a transfer port or a relay port) (as part of a forwarding

process, the received packet is forwarded along with the outbound tag priority via a

transfer port or a relay port, which may be connected to a bus or a trunk, to other bridge

port to be transmitted to a destination device as known in the art).

An applicant's admitted prior art, an IEEE standard 802.1Q, does not teach

determining a virtual trunk value based on a plurality of values, the plurality of values

including a VLAN identifier.

However, Merchant discloses an integrated multi-port switch with a hash function

to determine the port vector field (virtual trunk value) based on a plurality of values, the

plurality of values including a VLAN index (VLAN identifier), see Fig. 4 col. 11 lines 38.

Thus, it would be obvious to one skilled in the art, at the time of the invention to

include the hash function as taught by Merchant in the IEEE standard 802.1Q to

increase data throughput of multi-port switch.

Per claim 8, an applicant's admitted prior art, an IEEE standard 802.1Q, teaches

remapping packet priority in a data communication switch having a plurality of ports (a

bridge in a LAN which consists of a plurality of ports as known in the art, pg. 1, lines 15-

18) receiving a packet (a Std. 802.1Q-compliant packet) including a first priority value

(the inbound tag priority) on a first port (a reception port) (pg. 1, lines 15-21),

determining a second priority value (the outbound tag priority) based on the first priority

value (the inbound tag priority) and a plurality of other values including an identifier of

the first port (the reception physical port identifier) (pg. 1, lines 18-21), and transmitting

the packet including the second priority value (the outbound tag priority) on a second

port (a transfer port or a relay port) (as part of a forwarding process, the received packet

is forwarded along with the outbound tag priority via a transfer port or a relay port, which

may be connected to a bus or a trunk, to other bridge port to be transmitted to a

destination device as known in the art).

An applicant's admitted prior art, an IEEE standard 802.1Q, does not teach that

determining a second priority value based on a VLAN identifier.

However, Merchant discloses an integrated multi-port switch with an internal

rules checker IRC 40 generating a priority value based on a VLAN index (VLAN

identifier), see Fig. 6 col. 13 lines 1-21.

Thus, it would be obvious to one skilled in the art, at the time of the invention to

include the determining second priority value based on a VLAN identifier as taught by

Merchant in the IEEE standard 802.1Q to increase data throughput of multi-port switch.

Per claim 13, an applicant's admitted prior art, an IEEE standard 802.1Q,

teaches remapping packet priority in a data communication switch having a plurality of

ports (a bridge in a LAN which consists of a plurality of ports as known in the art, pg. 1,

lines 15-18) receiving a packet (a Std. 802.1Q-compliant packet) including a first priority

value (the inbound tag priority) on a first port (a reception port) (pg. 1, lines 15-21),

transmitting a plurality of values including a VLAN identifier (pg. 1, lines 10-11),

transmitting a port (virtual trunk) identifier and the first priority value (pg. 1, lines 16-18),

receiving a second priority value in response to the port identifier and the first priority

value (pg. 1, lines 18-21), and transmitting the packet including the second priority value

(the outbound tag priority) on a second port (a transfer port or a relay port) (as part of a

forwarding process, the received packet is forwarded along with the outbound tag

priority via a transfer port or a relay port, which may be connected to a bus or a trunk, to

other bridge port to be transmitted to a destination device as known in the art).

An applicant's admitted prior art, an IEEE standard 802.1Q, does not teach i) an

access controller, ii) a switching engine, iii) a first element, iv) a second element, and a

plurality of values including a VLAN identifier.

However, Merchant discloses an integrated multi-port switch with a media access

control MAC module 20 (Fig. 1), an internal rules checker IRC 40 (Fig. 2 and 6 col. 13

lines 1-21) generating a priority value based on a VLAN index (VLAN identifier), and a

receive portion 20a and transmit portion 24b (Fig. 3A).

Thus, it would be obvious to one skilled in the art, at the time of the invention to

include the integrated multi-port switch as taught by Merchant in the IEEE standard

802.1Q to increase data throughput of multi-port switch.

Per claim 17, an applicant's admitted prior art, an IEEE standard 802.1Q,

teaches remapping packet priority in a data communication switch having a plurality of

ports (a bridge in a LAN which consists of a plurality of ports as known in the art, pg. 1,

lines 15-18) receiving a packet (a Std. 802.1Q-compliant packet) including a first priority

value (the inbound tag priority) on a first port (a reception port) (pg. 1, lines 15-21),

transmitting a plurality of values including a VLAN identifier (pg. 1, lines 10-11), resolve

a second priority value (the outbound tag priority) from a plurality of other values

including an identifier of the first port (the reception physical port identifier) and the first

priority value (the inbound tag priority), (pg. 1, lines 18-21), transmitting the packet

including the second priority value (the outbound tag priority) on a second port (a

transfer port or a relay port) (as part of a forwarding process, the received packet is

forwarded along with the outbound tag priority via a transfer port or a relay port, which

may be connected to a bus or a trunk, to other bridge port to be transmitted to a

destination device as known in the art).

An applicant's admitted prior art, an IEEE standard 802.1Q, does not teach i) an

access controller, ii) a switching engine, iii) a plurality of database, and a plurality of

values including a VLAN identifier.

However, Merchant discloses an integrated multi-port switch with a media access

control MAC module 20 (Fig. 1), an internal rules checker IRC 40 (Fig. 2 and 6 col. 13

lines 1-21) generating a priority value based on a VLAN index (VLAN identifier), and a

plurality of tables (Fig. 4 col. 9 lines 18-38).

Thus, it would be obvious to one skilled in the art, at the time of the invention to

include the integrated multi-port switch as taught by Merchant in the IEEE standard

802.1Q to increase data throughput of multi-port switch.

Per claims 2 and 14, an applicant's admitted prior art, an IEEE standard 802.1Q,

does not teach that the plurality of values includes an identifier of the first port.

However, the plurality of bits values (a plurality of values) assigned to the reception

physical port is an identifier of the reception port (the first port).

Per claims 4, 10, and 15, an applicant's admitted prior art, an IEEE standard

802.1Q, teaches that the received packet includes a VLAN identifier (a VLAN identifier

is included in a received tagged packet, pg. 1, lines 9-11 and 15-18).

Per claim 7, an applicant's admitted prior art, an IEEE standard 802.1Q, fails to teach reducing the plurality of values to a smaller-bit value and using the smaller-bit value in a table look-up. However, it is well known in the art to reduce or compress a plurality of bits to save memory space. Therefore, it would have been obvious to one skilled in the art to reduce or compress a plurality of bits (a plurality of values) into a compressed bit value to save memory space in a table look-up which contains the corresponding reception physical port identifier for port identification in an addressing scheme.

Per claim 18, IEEE standard 802.1Q discloses all the limitation with respect to claim 17, except for the identifier of the port is a virtual port identifier derived from a physical port identifier. However, Merchant discloses an integrated multi-port switch with the identifier of the port is a vector (virtual) port identifier derived from a physical port identifier (Fig. 6 col. 5 lines 13-38). Thus, it would be obvious to one skilled in the art, at the time of the invention to include the integrated multi-port switch as taught by Merchant in the IEEE standard 802.1Q to increase data throughput of multi-port switch.

Conclusion

3.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Duong whose telephone number is 703-605-5146. The examiner can normally be reached on Monday through Friday, 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 703-308-5340. The fax phone numbers for

the organization where this application or proceeding is assigned are 703-746-9408 for

regular communications and 703-827-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is 703-305-

3900.

DD

September 15, 2003

STEVEN H.D NGUYEN
PRIMARY EXAMINER